



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2003AZ12B

**Title:** Attenuation of Estrogenic Activity in Reclaimed Water and Stormwater During Impoundment in Natural Systems

**Project Type:** Research

**Focus Categories:** Water Quality, Methods, Toxic Substances

**Keywords:** endocrine disrupting compounds, hormones, toxic substances

**Start Date:** 03/01/2003

**End Date:** 02/29/2004

**Federal Funds Requested:** \$12214.00

**Matching Funds:** \$26163.00

**Congressional District:** 5

**Principal Investigators:** Karpiscak, Martin Milan; Quanrud, David Matson (University of Arizona); Lansey, Kevin; Ela, Wendel; Gerba, Charles; Arnold, Robert

**Abstract:** Proposed work will examine the efficacy of constructed wetlands as a polishing technique for removal of estrogenic activity in wastewater effluent and stormwater runoff. The project will provide the following data, information, etc.

- (i) Site-specific data relevant to the fate of human estrogen and estrogen mimics during effluent polishing operations at the Sweetwater wetlands and Kino wetlands
- (ii) Data on fate of estrogenic activity as function of wetland detention time
- (iii) Information leading to consensus regarding use-dependent treatment requirements for water reuse applications.
- (iv) Site-specific data on fate of estrogenic activity in stormwater during wetland treatment at the Kino wetlands.

Results will provide baseline information towards understanding the fate of estrogenic activity during free-water-surface wetland treatment. Project results will provide utilities and government agencies with

a basis for rational decisions relative to the need for and design of follow-on investigations in this area of inquiry. It is emphasized that proposed work represents only a first step toward understanding the fate of EDCs during wetland treatment.

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